

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (currently amended) A balloon catheter having a distal region and a proximal region, the balloon catheter comprising:

an elongate shaft extending from the distal region to the proximal region and defining a working lumen therebetween, the elongate shaft having a proximal end, a distal end, an inner surface and an outer surface;

a hub assembly coupled to the proximal end of the elongate shaft, wherein the working lumen is in fluid communication with a lumen of the hub assembly;

an inflatable compliant balloon disposed about a portion of the distal region of the outer surface of the elongate shaft such that the shaft extends through the balloon; and

an external inflation component having an inner surface and an outer surface, and an inflation lumen in fluid communication with the balloon; wherein the external inflation component is disposed longitudinally along the outer surface of the elongate shaft such that the outer surface of the inflation component is disposed adjacent the outer surface of the elongate shaft;

wherein the external inflation component includes a proximal segment and a distal segment extending distal of the proximal segment, wherein the proximal segment includes a metallic hypotube and the distal segment includes a polymer tube extending distal of the metallic hypotube.

2. (original) The catheter of claim 1, wherein the external inflation component extends from the proximal region of the shaft to the balloon, the inflation component having a distal end disposed within the balloon.

3-4. (cancelled)

5. (previously presented) The catheter of claim 1, wherein the polymer tube is a reinforced braided polymer tube.
6. (previously presented) The catheter of claim 1, wherein the polymer tube is made of an elastic material.
7. (previously presented) The catheter of claim 1, wherein the hypotube is made of nitinol.
8. (original) The catheter of claim 1, wherein the inflation lumen has a smaller diameter than a diameter of the shaft.
9. (original) The catheter of claim 1, wherein the inflation component is attached to the outer surface of the shaft by shrinking a thin wall of polymer around the inflation component and shaft.
10. (original) The catheter of claim 1, wherein the inflation component is attached to the outer surface of the shaft by an adhesive.
11. (original) The catheter of claim 1, wherein the inflation component is attached to the outer surface of the shaft by a thermal bond.
12. (original) The catheter of claim 1, wherein the balloon is made of silicone, urethane, or poly-isoprene.
13. (original) The catheter of claim 1, wherein the shaft comprises an internal metal braid.
14. (original) The catheter of claim 1, wherein the shaft comprises an internal metal coil.

15. (original) The catheter of claim 1, wherein a proximal end of the inflation component comprises a sealing member configured to reversibly seal the inflation lumen.

16. (original) The catheter of claim 15, wherein the sealing member is a valve.

17. (previously presented) A balloon catheter having a distal region and a proximal region, the balloon catheter comprising:

an elongate shaft extending from the distal region to the proximal region and defining a working lumen therebetween, the elongate shaft having a distal end, an inner surface and an outer surface;

an inflatable compliant balloon disposed about a portion of the distal region of the outer surface of the elongate shaft such that the shaft extends through the balloon; and

an external inflation component comprising a sleeve having an annular wall having an inner surface and an outer surface, wherein the radial distance between the inner surface of the sleeve and the outer surface of the sleeve defines a thickness of the annular wall;

wherein the sleeve is disposed longitudinally about the outer surface of the elongate shaft extending from the proximal region of the shaft to proximal of the distal end of the shaft, wherein the inner surface of the sleeve is spaced from the outer surface of the shaft, creating an annular inflation lumen in fluid communication with the balloon;

wherein the thickness of the annular wall of the sleeve tapers toward the distal end of the shaft throughout a length of the shaft while the radial distance between the outer surface of the shaft and the inner surface of the sleeve remains constant throughout the length of the shaft in which the thickness of the annular wall tapers, resulting in a catheter with a tapered distal region.

18. (original) The catheter of claim 17, wherein a distal end of the balloon is attached to the distal region of the shaft and a proximal end of the balloon is attached to a distal end of the sleeve.

19. (original) The catheter of claim 18, wherein the sleeve is a single layer polymer, the sleeve being attached to an inflation hub at a proximal end of the sleeve.

20. (original) The catheter of claim 17, wherein the annular inflation lumen has a diameter of about 0.002 inches at the distal end of the sleeve.

21. (original) The catheter of claim 17, wherein the annular inflation lumen has a diameter of about 0.004 inches at a proximal end of the sleeve.

22-23. (cancelled)

24. (currently amended) A guide catheter assembly comprising:
an elongate shaft having a distal end and a proximal end;
a working lumen extending from the distal end to the proximal end;
a hub assembly coupled to the proximal end of the elongate shaft, wherein the working lumen is in fluid communication with a lumen of the hub assembly;
an inflatable compliant balloon disposed about the shaft proximal of the distal end; and
an external inflation component having an inflation lumen, the external inflation component extending longitudinally along and attached to an outer surface of the shaft;
wherein a distal end of the balloon is attached to the outer surface of the shaft and a proximal end of the balloon is attached to both the outer surface of the shaft and a distal end of the external inflation component, wherein the inflation lumen is in fluid communication with an interior of the balloon;
wherein the external inflation component includes a proximal segment and a distal segment extending distal of the proximal segment, wherein the proximal segment includes a metallic hypotube and the distal segment includes a polymer tube extending distal of the metallic hypotube.

25. (cancelled)

26. (previously presented) A balloon catheter having a distal region and a proximal region, the balloon catheter comprising:

an elongate shaft extending from the distal region to the proximal region and defining a working lumen therebetween, the elongate shaft having a distal end, an inner surface and an outer surface;

an inflatable compliant balloon disposed about a portion of the distal region of the outer surface of the elongate shaft such that the shaft extends through the balloon; and

an external inflation component comprising a sleeve having an annular wall having an inner surface and an outer surface, wherein the radial distance between the inner surface of the sleeve and the outer surface of the sleeve defines a thickness of the annular wall;

wherein the sleeve is disposed longitudinally about the outer surface of the elongate shaft extending from the proximal region of the shaft to proximal of the distal end of the shaft, wherein the inner surface of the sleeve is spaced from the outer surface of the shaft, creating an annular inflation lumen in fluid communication with the balloon;

wherein both the outer surface of the sleeve and the outer surface of the shaft taper toward the distal end of the shaft throughout a length of the shaft while the radial distance between the outer surface of the shaft and the inner surface of the sleeve remains constant throughout the length of the shaft in which the outer surface of the sleeve and the outer surface of the shaft tapers, resulting in a catheter with a tapered distal region.